

# MATERIAL SPECIFICATIONS

## PA 250

### HIGHLIGHTS

- Smoothest surface finish nylon 12 with excellent fine feature resolution
- Stabilized against thermal degradation for superior recyclability
- Easily processable with a Multizone Heater upgrade from Integra

### APPLICATIONS

- High detailed production parts
- Prosthetic medical devices
- Ducts, enclosures and connector assemblies
- Ideal for applications needing a cost effective approach for the production of high detailed precision parts

## TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	U.S. STANDARD	METRIC
Colour/Appearance	Visual	White	White
Bulk Density	ASTM D1895	0.289 oz/in <sup>3</sup>	0.50 g/cm <sup>3</sup>
Average Particle Size (D50)	Laser Diffraction	0.002 inches	40 microns
Particle Size Range (D10-D90)	Laser Diffraction	0.001 - 0.002 inches	30 - 50 microns
Sintered Part Density	ASTM D792	0.584 oz/in <sup>3</sup>	1.01 g/cm <sup>3</sup>
Heat Deflection Temperature	ASTM D648	187°F @ 264 psi	86°C @ 1.82 MPa
Heat Deflection Temperature	ASTM D648	354°F @ 66 psi	179°C @ 0.45 MPa
Ultimate Tensile Strength (XY)	ASTM D638	6,671 psi	46 MPa
Ultimate Tensile Strength (Z)	ASTM D638	5,221 psi	36 MPa
Tensile Modulus (XY)	ASTM D638	252,366 psi	1,740 MPa
Dielectric Constant @ 1 KHz	ASTM D150	2.73	2.73
Elongation at Break (XY)	ASTM D638	22%	22%
Flexural Modulus	ASTM D790	217,557 psi	1,500 MPa
Izod Impact Strength (notched)	ASTM D256	0.60 ft-lb/in	32 J/m
Hardness (Shore D)	ASTM D2240	73	73

For reference use only. Actual properties may vary significantly from those listed above based on processing parameters, operating conditions and end use applications. The above properties were based on virgin ALM PA 250 using normal processing parameters on a 2500+ platform as outlined in the ALM Material Processing Guide. Advanced Laser Materials, LLC makes no warranties of materials for any application, nor does it make a warranty of any type, expressed or implied, but not limited to, the warranties of merchantability for a particular purpose.



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